



AMENDMENT

In the claims:

Please cancel claims 1, 6-15, 20-22, 24-25, and 27-30 without prejudice or disclaimer.

Please add new claims 31 and 32.

Please amend claims 2, 5, 16-19, 23, and 26.

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Claim 1. (Canceled).

2. (Currently Amended) The laser of claim 31 [1], wherein:

- (a) said channel selector tuner is operable according to a channel selection signal; and
- (b) said external cavity is operable according to a cavity mode signal.

3. (Original) The laser of claim 2, wherein said channel selection signal is derived independently from said cavity mode signal.

4. (Original) The laser of claim 3, wherein:

- (a) said channel selection signal is derived from channel selector tuning data in a look-up table; and
- (b) said cavity mode signal is derived from a detector configured to measure external cavity loss associated with cavity optical path length.

5. (Currently Amended) The laser of claim 31 [1], wherein:

- (a) said channel selector tuner is operatively coupled to a first controller and operable according to the channel selector tuning data in a look-up table; and
- (b) said external cavity tuner is operatively coupled to a second controller and operable according to error signals derived from a detector configured to measure external cavity loss associated with cavity optical path length.

Claims 6-15. (Canceled)

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13-20-21
16. (Currently Amended) The external cavity laser apparatus of claim 5 [15], wherein said detector comprises a voltage sensor configured measure voltage modulation across said gain medium.

17. (Currently Amended) The external cavity laser apparatus of claim 5 [13], further comprising a modulation element, said modulation element operatively coupled to said external cavity and configured to introduce a modulation to said cavity optical path length, said modulation usable to derive a [said] cavity error mode signal.

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18. (Currently Amended) external cavity laser apparatus of claim 1 [13], wherein said cavity ~~optical path length~~ laser mode tuning assembly comprises a thermally tunable compensating member, said thermally tunable compensating member coupled to said end mirror.

19. (Currently Amended) The external cavity laser apparatus of claim 13, wherein the channel selector is further comprising a grid generator ~~positioned in said optical path~~.

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Claims 20-22. (Canceled).

23. (Currently Amended) The method of claim 32 [20], further comprising:

- (a) controlling ~~said first tuning element~~ the etalon with a first controller; and
- (b) controlling ~~said second tuning element~~ the end mirror with a second controller.

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Claims 24-25. (Canceled).

26. (Currently Amended) The method of claim 32 [24], ~~wherein said deriving said second cavity mode error signal comprises~~ further comprising introducing a frequency modulation to said external cavity optical path length, said frequency modulation detectable by a [said] sensor.

Claims 27-30 (Canceled).

31. (New) A laser, comprising:

Contd.

- a gain medium having first and second output facets, the gain medium emitting a coherent beam from the first output facet along an optical path;
- an end mirror located in the optical path, the end mirror and the second output facet defining an external cavity;
- a laser mode selector positioned in the optical path before the end mirror;
- a laser mode tuning assembly operatively coupled to the end mirror to adjust the position of the end mirror to adjust the optical path length of the external cavity to lock the laser onto a peak of a first passband, the first passband representing the laser mode;
- a laser channel selector positioned in the optical path; and
- a laser channel tuning assembly operatively coupled to the laser channel selector to adjust the position of the laser channel selector to lock the laser channel onto a peak of a second passband, the second passband representing the laser channel,

31
cont.

- the laser channel tuning assembly further coupled to adjust the position of the laser channel selector to unlock the laser channel from the peak of the second passband, while the laser mode tuning assembly is to maintain the laser mode locked onto the first passband.

32. (New) A method for operating a laser, comprising:

- adjusting the position of an end mirror located in an optical path of an external cavity of the laser to adjust the optical path length of the external cavity to lock the laser onto a peak of a first passband, the first passband representing a laser mode;
- adjusting the position of an etalon to lock the laser onto a peak of a second passband, the second passband representing the laser channel; and
- adjusting the position of the etalon away from the peak of the second passband while maintaining the laser locked onto the peak of the first passband.